

### ABSTRACT

Methods, compositions and kits are provided for testing susceptibility of HIV to drug treatment, such as drug resistance of HIV and inhibition of HIV replication by a drug candidate.

- 5 In one aspect of the invention, a method is provided for detecting drug resistance of HIV contained in a sample from an individual infected with HIV. In one embodiment, the method employs an indicator cell line which over-expresses CD4 and one or more co-receptors for HIV such as CXCR4 and CCR5 at high levels to render the cells susceptible to productive infection of various strains, subtypes or clades of HIV from both laboratory and clinical isolates. The
- 10 methods, compositions and kits can be used for high throughput screening of HIV patient samples, anti-HIV agents, and for designing customized HIV therapy.